



## ***Program Executive Office for Simulation, Training & Instrumentation***

# **Game Innovation VII: Technology Roadmap for Serious Games**

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Approved for Public Release.  
Security and OPSEC Review Completed: No Issues.

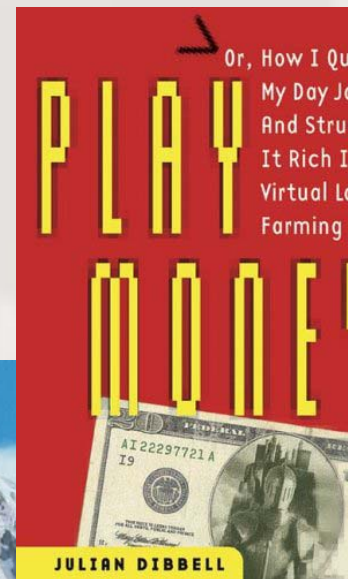
**SERIOUS  
GAMES SUMMIT**  
WASHINGTON D.C.  
OCT 30-31, 2006 **D.C.**



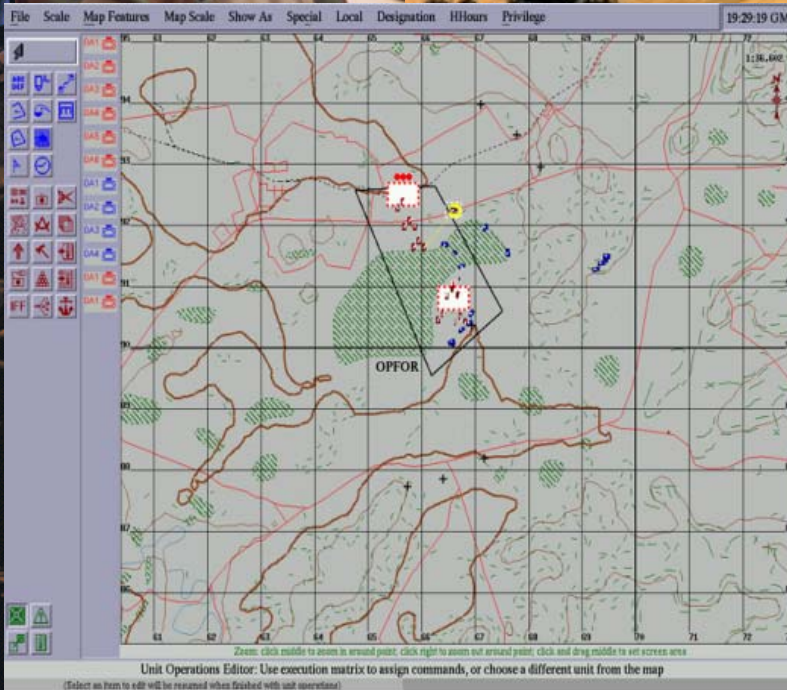
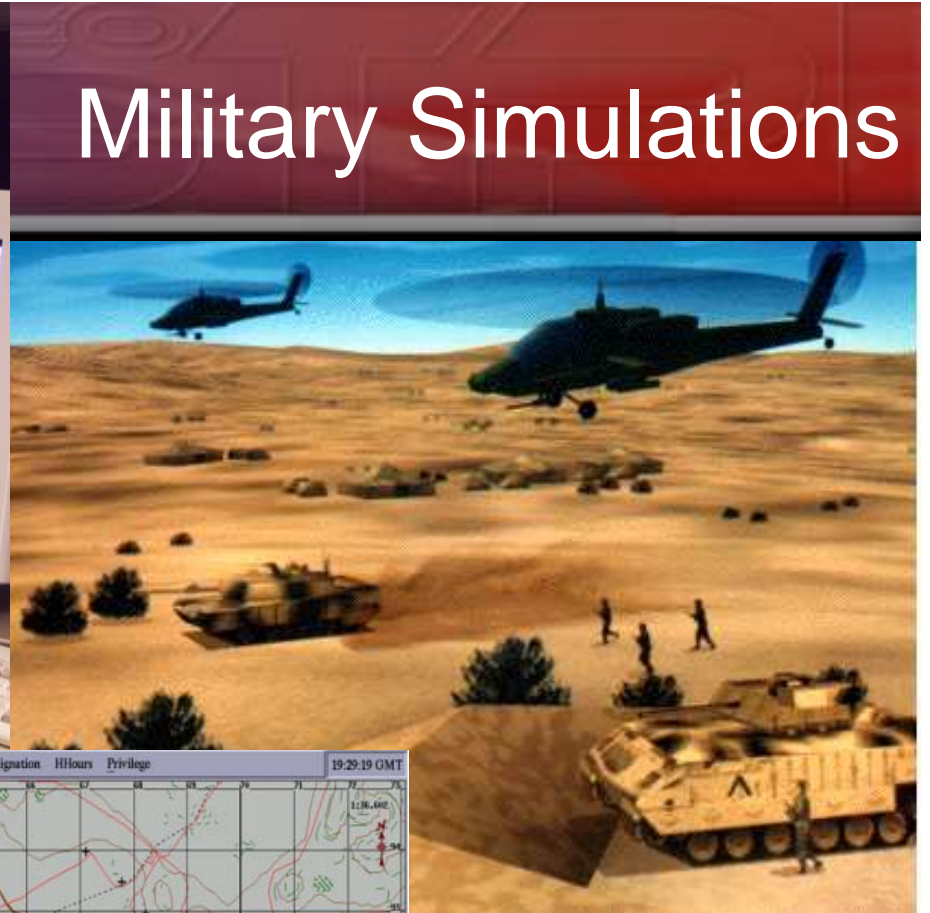
# The Power of Play

“Play is to the 21<sup>st</sup> century what steam was to the 19<sup>th</sup> century” - Power that can be harnessed for social and economic benefits.

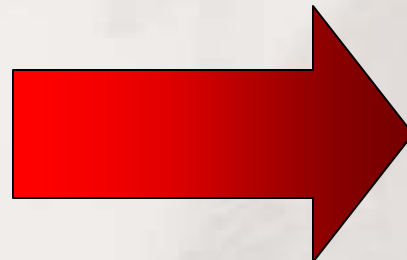
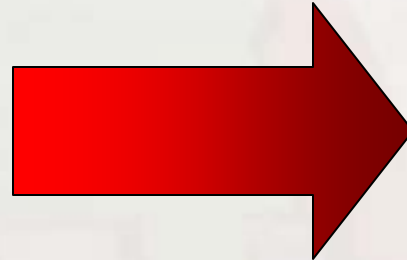
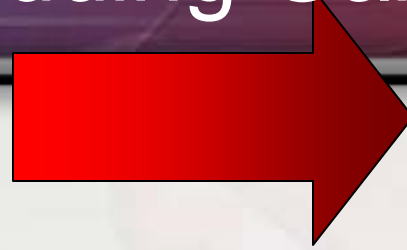
Julian Dibbell,  
*Play Money*



# Military Simulations



# Modding Games





# Phases of Military Game Adoption

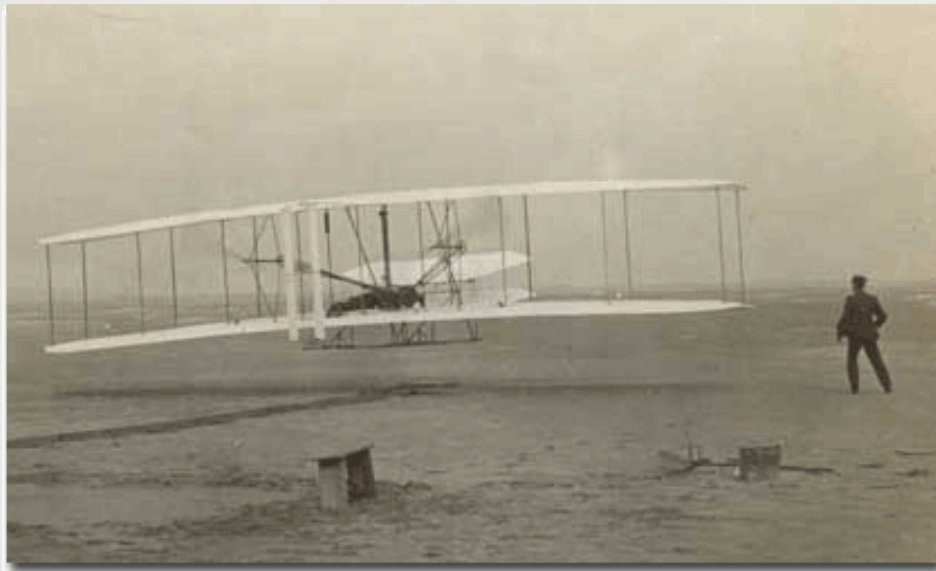
- Off The Shelf (MS Flight)
- Artist Mods (Marine DOOM)
- Model Mods (AA)
- Full Game Development (FSW)
- Game Decomposition and Technology Application (ES3)
- Create Specialty Industry



# Invention vs. Innovation

## ➤ Invention

- ❖ Creating a new technology, capability, process, material, etc.



## ➤ Innovation

- ❖ Finding a commercially valuable application of that invention

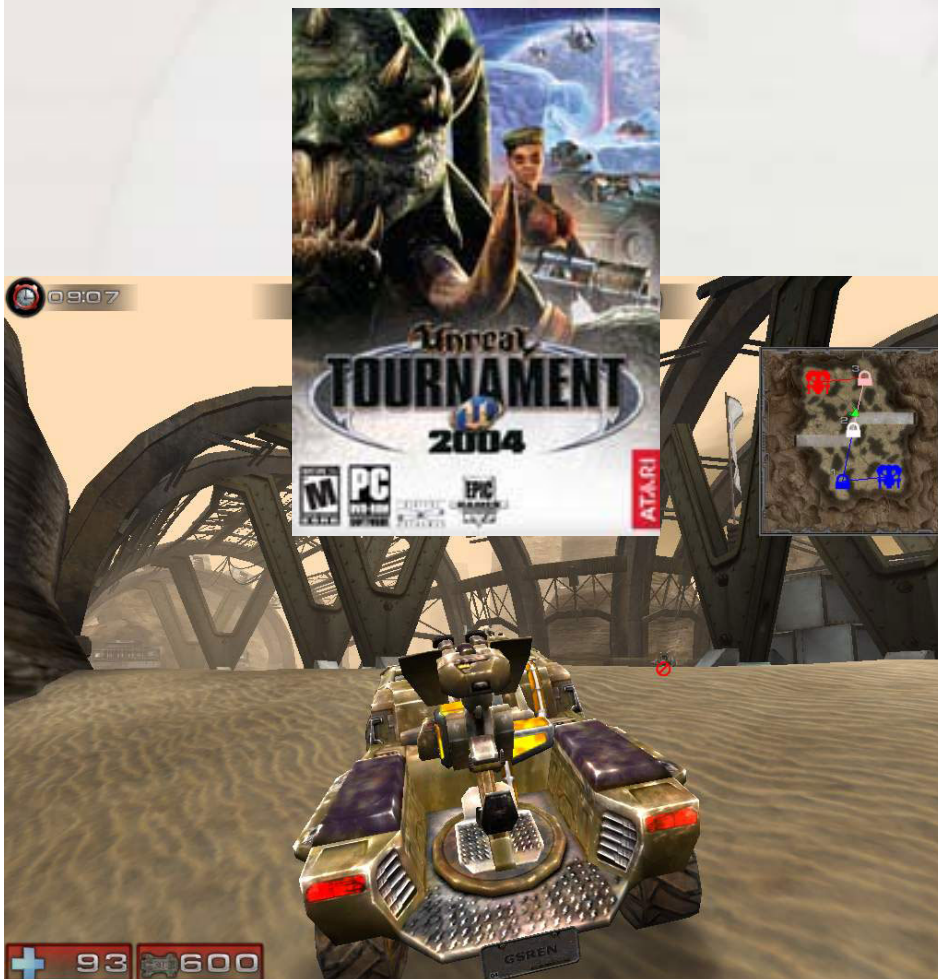




# Military Mods: Incremental Innovation

“Build on and reinforce the applicability of existing knowledge.”

“Improving and exploiting an existing technological trajectory.”



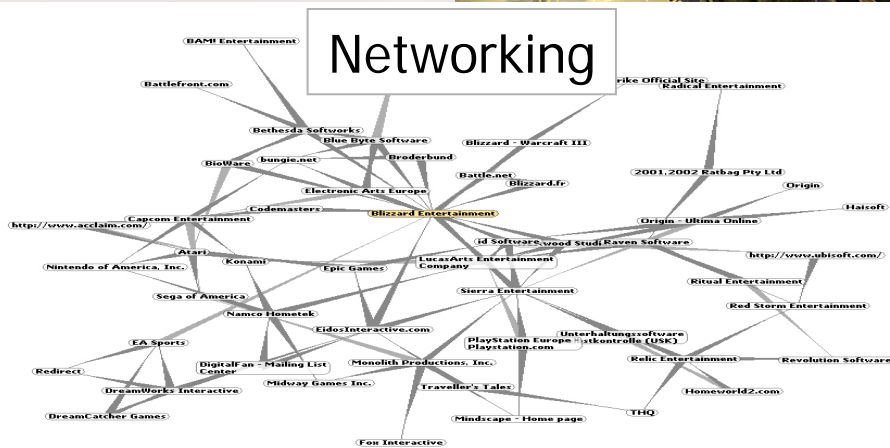
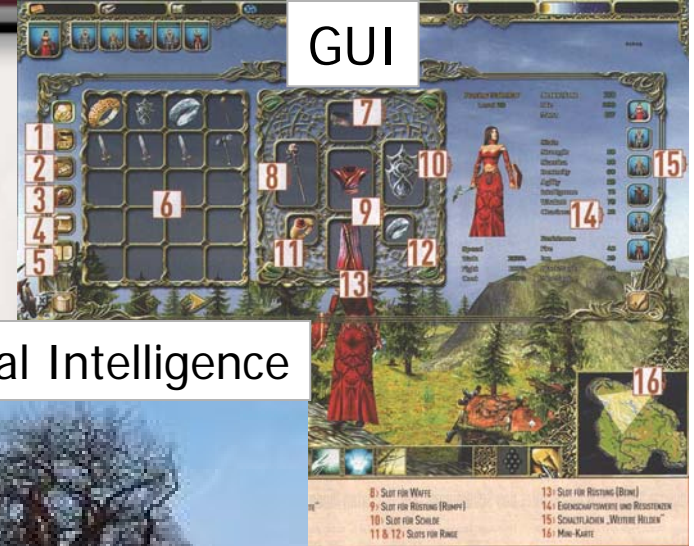


# New Forms: Radical Innovation

"Destroy the value of an existing knowledge base."

"Disrupt an existing technological trajectory."





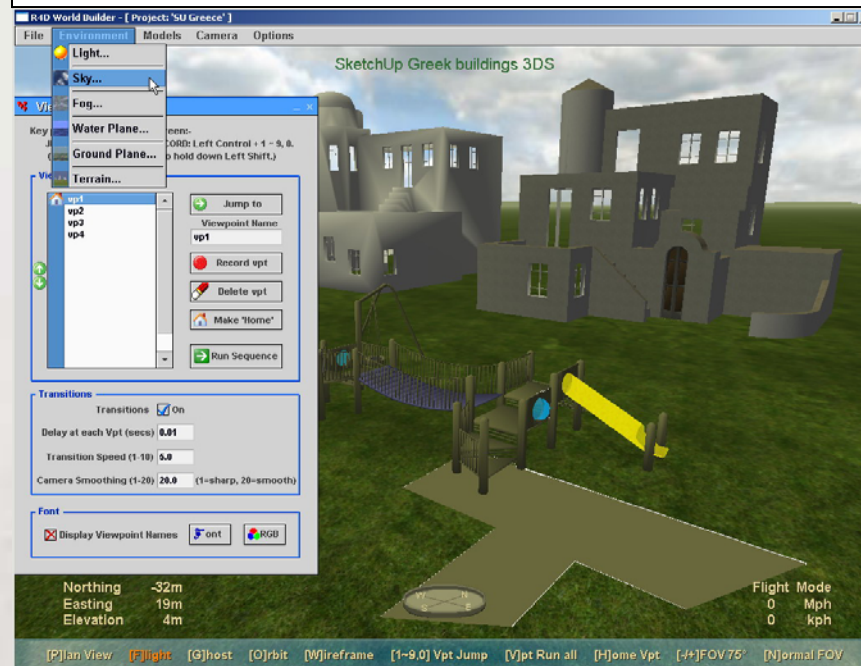


# Core Game Technologies II

## XML Scripting Config

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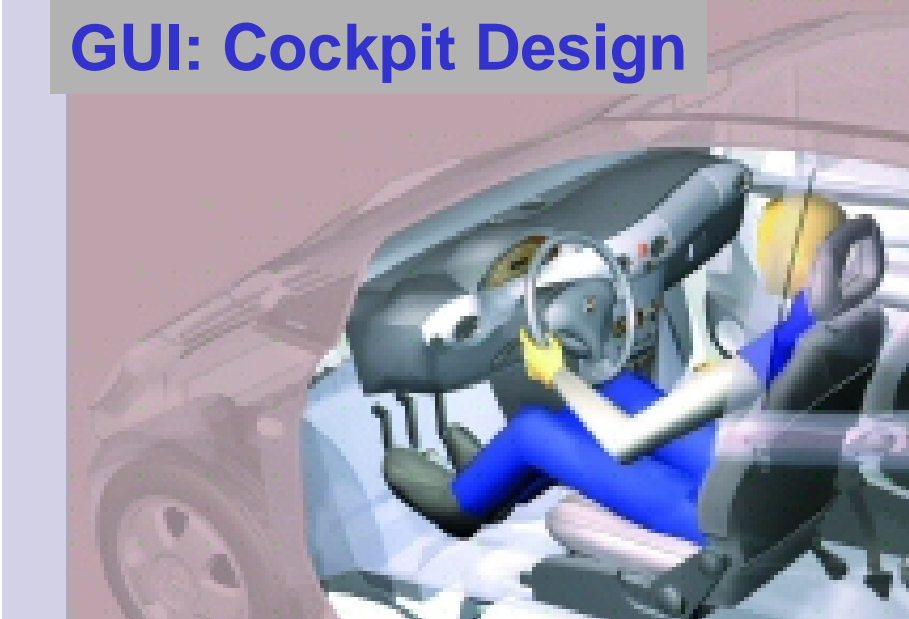
## Rapid World Building Tools





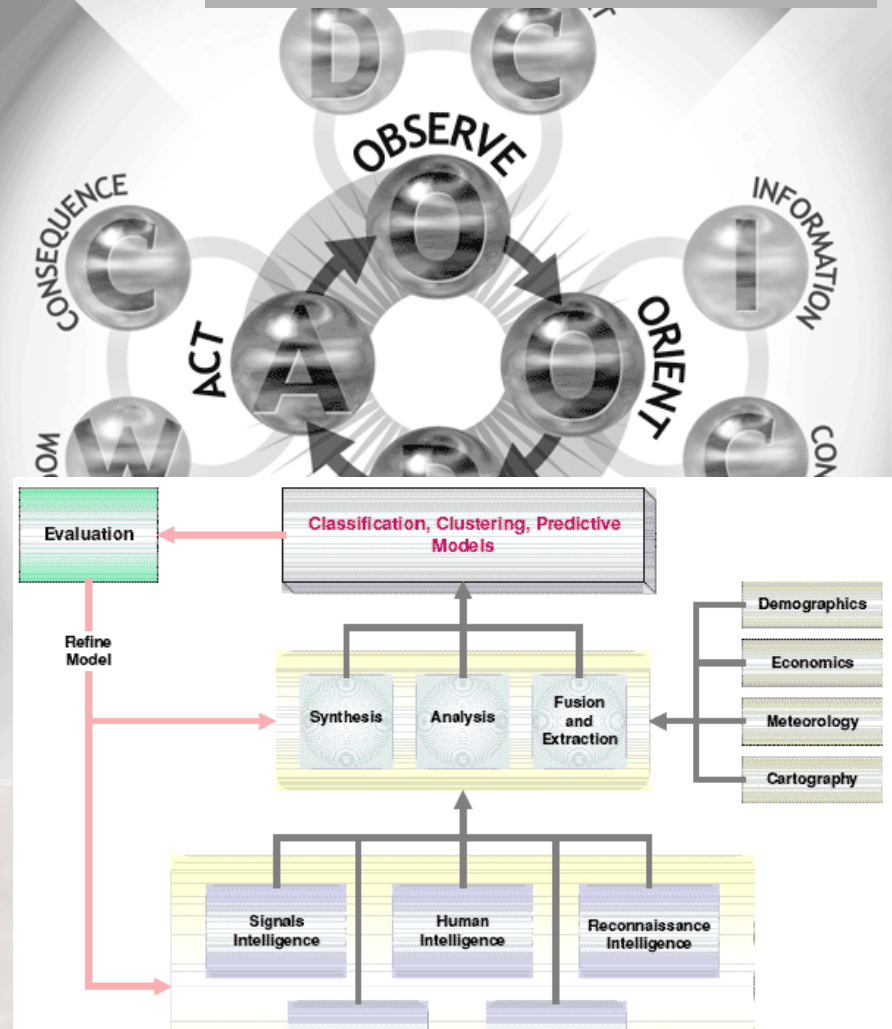
# Create Specialty Industries

## GUI: Cockpit Design



## 3D: Embedded Training

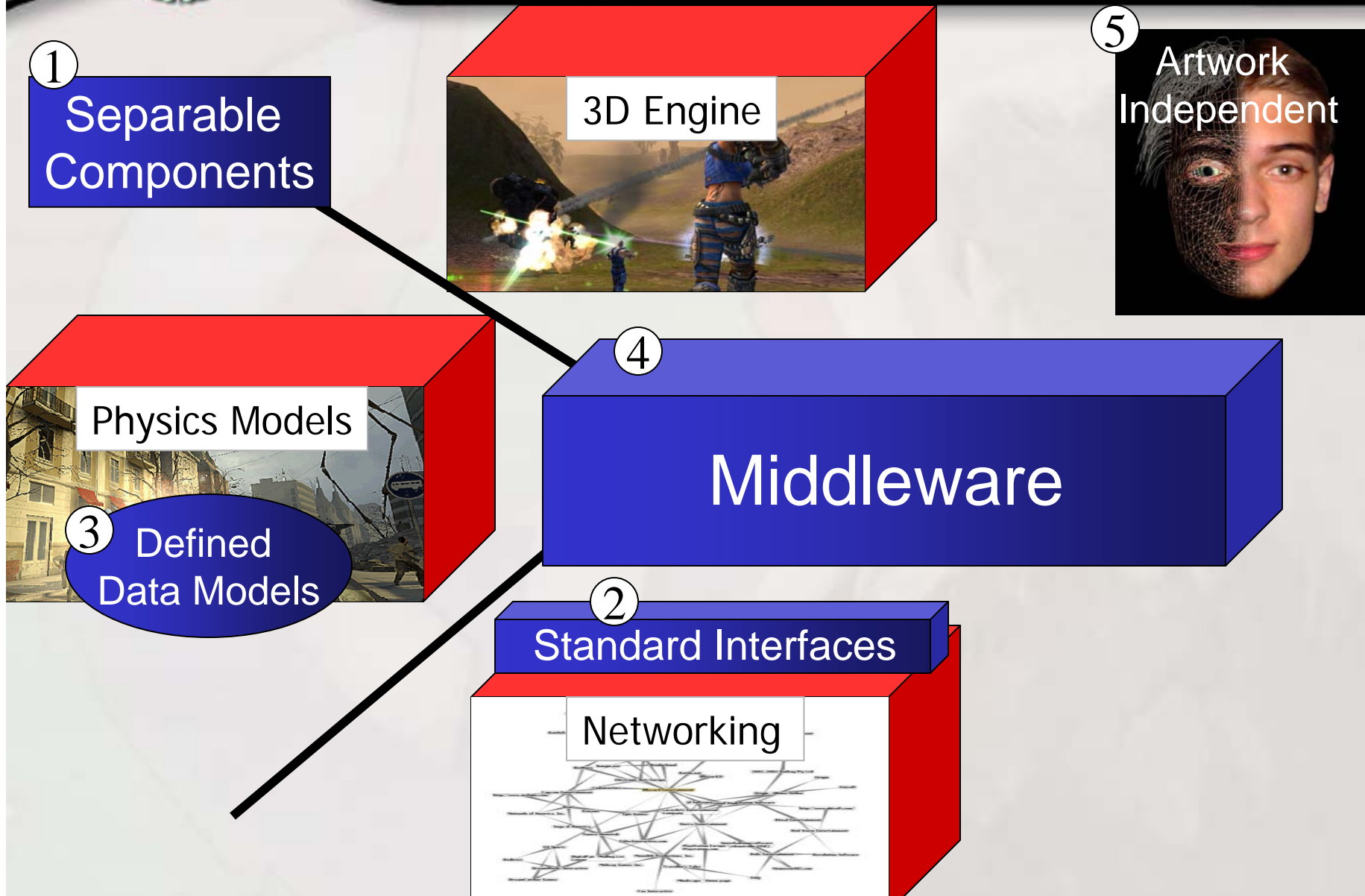
## AI: Decision Support



## Persistence: Data Fusion



# Serious Games Roadmap





# Roadmap From E-to-S

- Separable Components
  - ❖ Choose the pieces that I need
- Standard Interfaces (IEEE-like across products)
  - ❖ Each product is not a new learning curve
- Defined & Published Data Models
  - ❖ Exchange info across components from different vendors
- Middleware to pull pieces together
  - ❖ Sacrifice performance for flexibility
- Artwork independent tools
  - ❖ Support raw experiments as well as finished worlds



# Accessible Console Platform



The overview explains: "XNA Game Studio Express will enable you to create Windows and now Xbox 360 console games much more easily. These games are limited to non-commercial scenarios for 360 titles created with XNA Game Studio Express. However, XNA Game Studio Express may be used to create commercial games which target Windows. We will be releasing XNA Game Studio Professional next spring which will allow developers to create commercial games for Xbox 360 in addition to Windows."

Particularly interesting is information concerning how Xbox content will be shared among users. Microsoft has clarified how the distribution of user-created content will work, by noting that "there is currently no supported way to share binaries on the Xbox 360", explaining "...currently, there are four requirements that must be met in order to share a game targeting Xbox 360 which is developed with XNA Game Studio Express."

These requirements include that the intended recipient of the content must be logged in to Xbox Live and have an active subscription to the XNA Creators Club, must have downloaded the XNA Framework runtime environment for the Xbox 360, and must have XNA Game Studio Express installed on their own development PC.



# Military MMOG

DOD may move into MMOG. But we need to find:

- (1) a problem that fits MMOG,
- (2) a method to deploy it, and
- (3) tools for customers to create content.



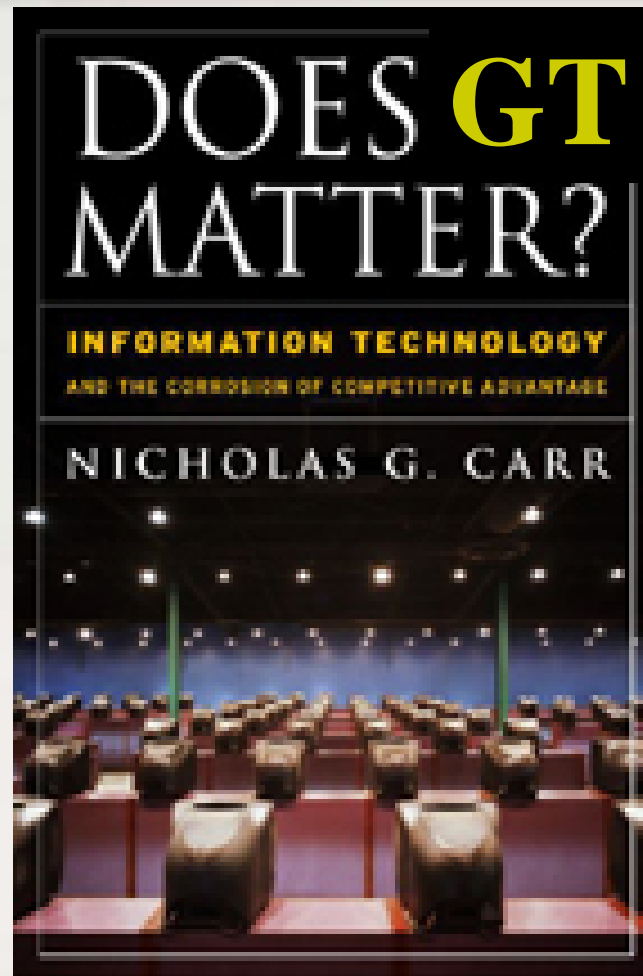


# Summary

- “Serious Games” is a temporary phenomena
  - ❖ Serious users will create their own unique industry, products, providers
- Beyond the 3D Shooter
  - ❖ New Customers – New Game Forms
- Serious Games Architecture
  - ❖ Reconfigurable Game Tech
- Accessible Console Platform
  - ❖ Low Cost, Standardized Delivery Platform
- Military MMOG
  - ❖ Massive Training Range
  - ❖ Game-Based C4I



Does GT Matter?



How Long Does GT Matter?